# Product data sheet
## Characteristics

# TPRST009
## Direct online starter, TeSys island, 15A AC-1, 9A AC-3, 4kW / 5hp


## Main

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|---|---|
| Range | TeSys |
| Product name | TeSys island |
| Device short name | TPRST |
| Product or component type | Motor starter |
| Motor starter type | Direct on line |
| Device presentation | Direct starter connected to an automation controller through a bus coupler<br>Operational only when connected to a bus coupler |
| Function available | Upstream voltage presence detection<br>Electrical line and load protection<br>Power and energy monitoring when connected with TPRVM voltage module |
| Product compatibility | TPRBC bus coupler<br>TPRVM voltage interface module |
| Poles description | 3P (3 NO) |
| Utilisation category | AC-1<br>AC-2<br>AC-3<br>AC-4 |
| Motor power kW | 2.2 kW at 230 V 50 Hz (AC-3)<br>4 kW at 380...415 V 50 Hz (AC-3)<br>4 kW at 440 V 50 Hz (AC-3)<br>5.5 kW at 500 V 50 Hz (AC-3)<br>5.5 kW at 690 V 50 Hz (AC-3) |
| Motor power HP (UL / CSA) | 0.33 hp at 120 V AC 60 Hz for 1 phase motors<br>1 hp at 240 V AC 60 Hz for 1 phase motors<br>2 hp at 208 V AC 60 Hz for 3 phases motors<br>2 hp at 240 V AC 60 Hz for 3 phases motors<br>5 hp at 480 V AC 60 Hz for 3 phases motors<br>7.5 hp at 600 V AC 60 Hz for 3 phases motors |
| [Ue] rated operational voltage | <= 690 V AC 47...63 Hz |
| [Ie] rated operational current | 9 A (at <50 °C) at <= 440 V AC-3<br>15 A (at <50 °C) at <= 440 V AC-1 |

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|---|---|
| [Ith] conventional free air thermal current | 15 A (at 50 °C) |
| [Ui] rated insulation voltage | 690 V conforming to IEC 60947-4-1<br>600 V conforming to UL 60947-4-1<br>600 V conforming to CSA C22.2 No 60947-4-1 |
| [Uimp] rated impulse withstand voltage | 6 kV conforming to IEC 60947-1 |
| Overvoltage category | III |
| Thermal protection adjustment range | 0.18…9 A |
| Thermal overload class | Class 5…30 |
| Reset | Remotely or automatically |
| Irms rated making capacity | 250 A at 440 V conforming to IEC 60947 |
| Rated breaking capacity | 250 A at 440 V conforming to IEC 60947 |
| [Icw] rated short-time withstand current | 210 A 40 °C - 1 s<br>105 A 40 °C - 10 s<br>61 A 40 °C - 1 min<br>30 A 40 °C - 10 min |
| Average impedance | 2.5 mOhm - Ith 15 A 50 Hz |
| Power dissipation per pole | 0.2 W AC-3 - Ith 9 A<br>0.56 W AC-1 - Ith 15 A |
| [Uc] control circuit voltage | 24 V DC supplied by the bus coupler |
| Current consumption | 160 mA contactor sealed<br>160 mA contactor closing |
| Power dissipation in W | 3.5 W at Ie AC-3 |

## Complementary

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| Mechanical durability | 30 Mcycles |
| Electrical durability | 2 Mcycles 9 A AC-3 at Ue 440 V<br>1.2 Mcycles 15 A AC-1 at Ue 440 V |
| Maximum operating rate | 3600 cyc/mn AC-3 |
| Operating time | < 100 ms closing<br>< 30 ms opening |
| Safety performance level | B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1<br>B10d = 20000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1 |
| Protection type | Thermal overload protection<br>Motor overheat<br>Overcurrent<br>Undercurrent<br>Jam<br>Long start<br>Stall<br>Rapid cycle lockout<br>Phase sequence<br>Rapid restart lockout<br>Phase reversal<br>Phase loss<br>Phase unbalance<br>Ground current |
| Monitoring type | Time device ON<br>Time device switch ON<br>Number of faults<br>Number of switching cycles<br>Number of device power cycles<br>Average current Iavg<br>Average voltage Vavg<br>Max current Imax<br>Max voltage Vmax<br>Active and reactive power with voltage module<br>Active and reactive energy with voltage module<br>True power factor with voltage module |
| Local signalling | 1 LED (green/red) for DS (device status)<br>1 LED (green/red) for LS (load status) |
| Standards | EN/IEC 60947-1<br>EN/IEC 60947-4-1<br>UL 60947-4-1 |

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| | CSA C22.2 No 60947-4-1 |
| Product certifications | EAC<br>CSA<br>CCC<br>UL |
| Mounting mode | Horizontal and vertical (35 mm symmetrical DIN rail) |
| Connections - terminals | Screw-clamp terminals 1 cable(s) 1…4 mm² (AWG 16...AWG 12) rigid<br>Screw-clamp terminals 2 cable(s) 1…4 mm² (AWG 16...AWG 12) rigid<br>Screw-clamp terminals 1 cable(s) 1.5…4 mm² (AWG 16...AWG 12) flexible without cable end<br>Screw-clamp terminals 2 cable(s) 1.5…4 mm² (AWG 16...AWG 12) flexible without cable end<br>Screw-clamp terminals 1 cable(s) 1…4 mm² (AWG 16...AWG 12) flexible with cable end<br>Screw-clamp terminals 2 cable(s) 1…2.5 mm² (AWG 16...AWG 14) flexible with cable end |
| Tightening torque | 1.7 N.m - with screwdriver flat Ø 6 mm<br>1.7 N.m - with screwdriver Philips No 2 |
| Width | 45 mm |
| Height | 116 mm |
| Depth | 115 mm |
| Net weight | 0.656 kg |

## Environment

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| Ambient air temperature for storage | -25…70 °C |
| Ambient air temperature for operation | -10…50 °C without derating<br>50…60 °C with current derating |
| Relative humidity | 5…95 % |
| Operating altitude | 0...2000 m without derating |
| IP degree of protection | IP20 |
| Pollution degree | 2 |
| Protective treatment | TC |
| Fire resistance | 960 °C conforming to UL 94<br>850 °C conforming to IEC 60695-2-1<br>650 °C conforming to IEC 60695-2-12 |
| Shock resistance | 15 gn (duration = 11 ms) conforming to IEC 60068-2-27 |
| Vibration resistance | 1.5 mm peak to peak (f= 3…13 Hz) conforming to IEC 60068-2-6<br>1 gn (f= 13…200 Hz) conforming to IEC 60068-2-6 |
| Electromagnetic compatibility | Electrostatic discharge immunity test, level 3, 8 kV air, 6 kV contact, conforming to EN/IEC 61000-4-2<br>Radiated RF field immunity test, level 3, 10 V/m, conforming to EN/IEC 61000-4-3<br>Fast transient immunity test, level 4, 4 kV, conforming to EN/IEC 61000-4-4<br>Surge immunity test (differential mode), level 3, 2 kV, conforming to EN/IEC 61000-4-5<br>Surge immunity test (common mode), level 4, 4 kV, conforming to EN/IEC 61000-4-5<br>Conducted RF disturbance immunity test, 20 V, conforming to EN/IEC 61000-4-6 |

## Packing Units

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| Package 1 Weight | 618.000 g |
| Package 1 Height | 10.100 cm |
| Package 1 width | 2.500 cm |
| Package 1 Length | 11.400 cm |

## Offer Sustainability

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| Sustainable offer status | Green Premium product |
| EU RoHS Directive | Compliant<br>EU RoHS Declaration |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS declaration<br>Product out of China RoHS scope. Substance declaration for your information |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End of Life Information |

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| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| Halogen content performance | Halogen free plastic parts product |

## Contractual warranty

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| Warranty | 18 months |